

Amendments to the Claims under Revised 37 C.F.R. § 1.121

Claim 1 (currently amended): An isolated nucleic acid molecule comprising:

- (a) the nucleotide sequence as set forth in any of SEQ ID NO: 1, SEQ ID NO: 3, or SEQ ID NO: 5;
- (b) a nucleotide sequence encoding ~~the~~ a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6; or
- ~~(c) a nucleotide sequence which hybridizes under at least moderately stringent conditions to the complement of the nucleotide sequence of either (a) or (b), wherein the encoded polypeptide has an activity of the polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6; or~~
- ~~(d)(c) a nucleotide sequence that is complementary to the nucleotide sequence of any of either (a)–(e) or (b).~~

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Claim 2 (currently amended): An isolated nucleic acid molecule comprising:

- ~~(a) a nucleotide sequence encoding a polypeptide that is at least about 70 percent identical to the polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6, wherein the encoded polypeptide has an activity of the polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6;~~
- ~~(b) a nucleotide sequence encoding an allelic variant or splice variant of the nucleotide sequence as set forth in any of SEQ ID NO: 1, SEQ ID NO: 3, or SEQ ID NO: 5, or the nucleotide sequence of (a), wherein the encoded polypeptide has an activity of the polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6;~~
- ~~(e)(a) a region of the nucleotide sequence of any of SEQ ID NO: 1, SEQ ID NO: 3, or SEQ ID NO: 5, or the nucleotide sequence of (a) or (b), encoding a polypeptide fragment of at least about 25 amino acid residues, wherein the polypeptide fragment has an activity of the encoded a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6, or is antigenic;~~
- ~~(d)(b) a region of the nucleotide sequence of any of SEQ ID NO: 1, SEQ ID NO: 3, or SEQ ID NO: 5, or the nucleotide sequence of any of (a)–(e), comprising a fragment of at least about 16 nucleotides; or~~

~~(e) a nucleotide sequence which hybridizes under at least moderately stringent conditions to the complement of the nucleotide sequence of any of (a) - (d), wherein the encoded polypeptide has an activity of the polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6; or~~

~~(f)(c) a nucleotide sequence that is complementary to the nucleotide sequence of any of either (a)-(e) or (b).~~

Claim 3 (currently amended): An isolated nucleic acid molecule comprising:

(a) a nucleotide sequence encoding a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6 with at least one conservative amino acid substitution, wherein the encoded polypeptide has an activity of ~~the~~ a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6;

(b) a nucleotide sequence encoding a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6 with at least one amino acid insertion, wherein the encoded polypeptide has an activity of ~~the~~ a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6;

(c) a nucleotide sequence encoding a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6 with at least one amino acid deletion, wherein the encoded polypeptide has an activity of ~~the~~ a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6;

(d) a nucleotide sequence encoding a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6 which has a C- and/or N-terminal truncation, wherein the encoded polypeptide has an activity of ~~the~~ a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6;

(e) a nucleotide sequence encoding a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6 with at least one modification that is a conservative amino acid substitution, an amino acid insertion, an amino acid deletion, C-terminal truncation, or N-terminal truncation, wherein the encoded polypeptide has an activity of ~~the~~ a polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6;

(f) a nucleotide sequence of any of (a) - (e) comprising a fragment of at least about 16

nucleotides; or

(g) ~~a nucleotide sequence which hybridizes under at least moderately stringent conditions to the complement of the nucleotide sequence of any of (a)-(f), wherein the encoded polypeptide has an activity of the polypeptide as set forth in any of SEQ ID NO: 2, SEQ ID NO: 4, or SEQ ID NO: 6; or~~

(h)(g) ~~a nucleotide sequence that is complementary to the nucleotide sequence of any of (a)-(g)(f).~~

Claim 4 (previously amended): A vector comprising the nucleic acid molecule of any of Claims 1, 2, or 3.

Claim 5 (original): A host cell comprising the vector of Claim 4.

Claim 6 (original): The host cell of Claim 5 that is a eukaryotic cell.

Claim 7 (original): The host cell of Claim 5 that is a prokaryotic cell.

Claim 8 (original): A process of producing a B7-like polypeptide comprising culturing the host cell of Claim 5 under suitable conditions to express the polypeptide, and optionally isolating the polypeptide from the culture.

Claim 9 (canceled)

Claim 10 (original): The process of Claim 8, wherein the nucleic acid molecule comprises promoter DNA other than the promoter DNA for the native B7-like polypeptide operatively linked to the DNA encoding the B7-like polypeptide.

Claim 11 (previously amended): The isolated nucleic acid molecule according to Claim 2, wherein the percent identity is determined using a computer program that is GAP, BLASTN, FASTA, BLASTA, BLASTX, BestFit, or the Smith-Waterman algorithm.

Claims 12-47 (canceled)

Claim 48 (currently amended): A viral vector comprising a the nucleic acid molecule of any of Claims 1, 2, or 3.

Claim 49-54 (canceled)

Claim 55 (previously amended): A method of modulating levels of a B7-like polypeptide in an animal comprising administering to the animal the nucleic acid molecule of any of Claims 1, 2, or 3.

Claim 56 (canceled)

Claim 57 (currently amended): A The nucleic acid molecule of any of Claims 1, 2, or 3 attached to a solid support.

Claim 58 (previously added): An array of nucleic acid molecules comprising at least one nucleic acid molecule of any of Claims 1, 2, or 3.

Claim 59 (new) An isolated nucleic acid molecule comprising:

(a) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence:
Xaa
Xaa Xaa Ile Glu Gly Pro Gln Asn Xaa Xaa Val Leu Lys Xaa Ser Xaa Ala Xaa Phe
Asn Cys Thr Val Xaa Xaa Gly Trp Lys Leu Xaa Met Trp Xaa Leu Xaa Xaa Met Val
Val Leu Ser Xaa Xaa Xaa Xaa Pro Ile Ile Thr Asn Xaa Arg Phe Thr Xaa Xaa
Xaa Tyr Xaa Xaa Xaa Xaa Phe Xaa Ser Glu Xaa Ile Ile His Xaa Val Xaa Pro Ser
Asp Ser Gly Xaa Xaa Xaa Cys Ser Leu Gln Asn Ser Xaa Xaa Gly Ser Ala Xaa
Leu Xaa Val Gln Val Met Gly Xaa Leu Xaa Ile Pro Ser Xaa Asn Leu Xaa Val Xaa
Glu Xaa Glu Pro Cys Xaa Val Thr Cys Xaa Xaa Xaa Trp Thr Xaa Leu Pro Asp
Ile Ser Trp Glu Leu Xaa Xaa Xaa Val Ser His Ser Ser Tyr Xaa Xaa Xaa Glu Pro

Xaa Xaa Xaa Xaa Xaa Xaa Ser Xaa Leu Xaa Leu Thr Pro Xaa Xaa Asn Gly Thr
Leu Thr Cys Val Ala Xaa Xaa Lys Xaa Leu Xaa Ala Xaa Lys Ser Xaa Thr Val Asn
Leu Thr Val Xaa Xaa Xaa Pro Xaa Asp Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Xaa Xaa Leu Pro Thr Trp Xaa Xaa Xaa Xaa Leu
Xaa Xaa Ala Xaa Xaa Xaa Leu Leu Xaa Xaa Xaa Xaa Leu Xaa Ile Xaa Xaa Cys
Cys Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ile Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Lys
Xaa Xaa Xaa Glu Thr Xaa Xaa Xaa Ser Gly Xaa Glu Asn Xaa Gly Tyr Xaa Ser Asp
Glu Xaa Lys Xaa Xaa Xaa Thr Ala Ser Leu Pro Pro Lys Ser Xaa Glu Xaa Ser Xaa
Pro Glu Xaa Arg Xaa Ser Xaa Xaa Xaa Pro Xaa Gln Xaa Xaa Xaa Xaa Xaa
Pro Xaa Pro Ala Xaa His Pro Xaa Xaa Ser Phe Xaa Leu Ala Ser Pro Xaa Lys Val
Xaa Asn Xaa Thr Xaa Val,

wherein the residue at positions 19, 34, 93, and 378 is either glutamic acid or glutamine;
the residue at positions 20, 100, 131, 181, 214, and 246 is either isoleucine or valine;
the residue at positions 36, 108, and 360 is either arginine or histidine;
the residue at positions 42, 116, 220, 253, and 366 is either serine or threonine;
the residue position 43 is either glutamine or histidine;
the residue at positions 48 and 374 is either isoleucine or leucine;
the residue at positions 51, 133, 305, 327, and 328 is either alanine or threonine;
the residue at positions 60, 159, 179, 250, and 385 is either valine or leucine;
the residue at positions 101, 215, 295, and 369 is either arginine or glutamine;
the residue at position 114 is either tyrosine or phenylalanine;
the residue at position 135 is either asparagine or glycine;
the residue at positions 202, 345, and 359 is either lysine or glutamine;
the residue at position 239 is either serine or alanine;
the residue at position 254 is either methionine or leucine;
the residue at positions 280 and 338 is either cysteine or alanine;
the residue at positions 5-18, 27, 28, 32, 53, 54, 61-64, 70, 74-76, 78-82, 84, 87, 91, 99, 109,
110, 122, 124, 127, 139, 143-146, 149, 158, 160, 167-170, 173-178, 183, 187, 188, 197, 198, 200,
204, 207, 216, 218, 221, 235, 236, 238, 244, 245, 247, 249, 252, 257-261, 263, 265, 266, 281-293,

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296-303, 306, 307, 310-312, 315, 318, 321, 325, 329, 340, 342, 347, 351, 352, 354, 356-358, 361, 363, 370, 373, 381, and 383 may be is any naturally occurring amino acid; and

the residue positions 1-4, 223-234, 270-278, 349, and 350 may be any naturally occurring amino acid or may be absent; or

(b) a nucleotide sequence that is complementary to the nucleotide sequence of (a).